Summer Squash Variety Trial — 2011

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Introduction

In recent years, Indiana and the surrounding region have seen an increase in small and medium-scale vegetable production. Growers are producing vegetables for sale and distribution through local farmers' markets, produce auctions, and various Community Supported Agriculture (CSA) venues. Summer squash is a crop frequently produced by growers in the region. Squash growers are offered numerous variety options.

Our goal during the 2011 season was to continue the evaluation of summer squash varieties available to local growers and to identify those that are best suited to production in our region.

Materials and Methods

Seeds of 14 summer squash varieties were sown into 50-cell flats on May 31. Seeds were germinated and the resulting transplants were grown in a local greenhouse. Summer squash varieties consisted of zucchini (green and yellow) and yellow squash varieties. Transplants were planted into a field on a local farm. Prior to transplanting, a blended commercial fertilizer (26.6N-0P-20.1K-2.7S-.08B) was applied at the rate of 625 lbs. per acre.

On June 13-14, transplants were planted into rows arranged on 6.5-foot centers. Each row was covered by a 3 ft. strip of clear plastic mulch. Individual varieties were transplanted into plots of 12 plants. In-row spacing for the plants in each individual plot was 24 inches. The trial simulated production at 3,350 plants per acre. Plots were arranged in a randomized complete block design with three replications of each variety.

Individual plots were harvested a total of 13 times between July 6 and August 3. Following harvest, fruit from each plot were graded as number one, number two, or oversized and were counted and weighed. Data were then compiled and subjected to appropriate statistical analysis.

Results and Discussion

Following compilation, data were separated by plant type and separate statistical analyses were performed for zucchini and yellow squash. Although both weight and quantity of fruit were measured in the study, only quantity data are presented. Due to the rapid growth and expansion of fruit, it was felt that quantity data were a more accurate indicator of potential varietal performance.

An analysis of variance of zucchini data failed to detect any significant differences (α=.05) among varieties. Total yield (mean of three replications) of zucchini ranged from 16,754-25,503 fruit/acre, with 'Golden Glory' yielding the most fruit and 'Emerald Desire' yielding the least. 'Golden Glory' also produced the most number one fruits, followed by 'Spineless Perfection' and 'Payroll,' respectively.

Zucchini data are summarized in Table 1. It should be noted that while 'Golden Glory' yielded the largest number of total fruit, the variety also yielded the largest number of number two fruit.

Fruit of this variety were classed as number two primarily due to excessive curvature or scarring. Because of its prolific nature, 'Golden Glory' may require additional pollinators in order to reduce curvature due to poor pollination.

The quantity of oversized fruit varied with variety. 'Spineless King' had the greatest quantity of oversized fruit. During the 2011 season, fruit were harvested, on average, every 2.2 days. The data indicate that several varieties may require more frequent harvesting in order to reduce the number of oversized fruit. Due to the relatively large number of oversized fruit in some varieties, the combined quantity of number one and oversized zucchini are presented in Table 1 as an estimate of potential yield when a more aggressive harvesting schedule is utilized. When oversized fruit were accounted for, fruit quantities ranged from 14,054-22,060 fruit/acre, with 'Spineless King' having the highest quantity of fruit and 'Emerald Desire' having the lowest.

Table 1. Yields of three replications of eight zucchini varieties evaluated in 2011.

Variety	Seed Source[1]	#1 Fruit[2]	#2 Fruit[2]	Oversized Fruit[2]	Total Yield[2]	Oversized and #1 Fruit[2,3]
Golden Glory	SW/SY	14,986	5,026	5,491	25,503	20,477
Spineless Perfection	SW/RU/SY	14,706	2,792	7,167	24,665	21,873
Payroll	RU/SY	14,055	2,792	6,515	23,362	20,570
Reward	HM	14,055	3,164	5,678	22,897	19,733
Paycheck	SY	12,379	2,979	4,747	20,105	17,126
Spineless King	SW	11,635	2,886	10,425	24,945	22,060
Cash Flow	RU/SY	11,542	2,327	6,050	19,919	17,592
Emerald Desire	SY	9,959	2,699	4,095	16,754	14,054
lsd (α=.05)		4,998	2,153	4,939	9,034	7,917

[1]SY=Syngenta; SW=Seedway; RU=Rupp; HM=Harris Moran.
[2]Mean yield (fruit/acre) of three replications.
[3]Sum of all harvested oversized and number one fruit.

Six varieties of yellow squash were evaluated in the trial. The ANOVA of compiled yield data detected significant differences (α=.05) among quantities of number one fruit produced. Total yield ranged from 15,823-33,135 fruit/acre. 'Enterprise' produced the highest total yield. This variety also produced the greatest quantity of number 1 fruit. Quantities of number 1 fruit ranged from 9,773-22,804 fruit/acre.

Quantities of number 2 fruit ranged from 2,048-6,143 fruit/acre. 'Cougar' produced the lowest quantity of both number 1 and number 2 fruit. 'Cheetah' produced the highest number of oversized fruit, suggesting that a more aggressive harvesting schedule may be needed to maximize number 1 production from this variety. Data from all yellow squash varieties are summarized in Table 2.

Table 2. Yields of three replications of six yellow squash varieties evaluated in 2011.

Variety	Seed Source[1]	#1 Fruit[2]	#2 Fruit[2]	Oversized Fruit[2]	Total Yield[2]	Oversized and #1 Fruit[2,3]
Enterprise	RU	22,804	4,282	6,050	33,135	28,853
Lazor	SW	20,756	6,143	4,188	31,088	24,945
Goldprize	RU/SY	19,453	6,143	6,143	31,739	25,596
Fortune	RU	11,635	3,630	2,793	18,057	14,427
Cheetah	HM	11,262	4,654	10,890	26,806	22,152
Cougar	HM	9,773	2,048	4,002	15,823	13,775
lsd (α=.05)		7,603	3,700	5,834	14,477	11,784

[1] SY=Syngenta; SW=Seedway; RU=Rupp; HM=Harris Moran.
[2] Mean yield (fruit/acre) of three replications.
[3] Sum of all harvested oversized and number one fruit.